COASTAL CONSERVANCY

Staff Recommendation
April 27, 2006

Valencia Creek Fish Passage Improvement Program

File No. 06-013
Project Manager: Kate Goodnight

RECOMMENDED ACTION: Authorization to disburse up to $600,000 to the County of Santa Cruz to reconstruct a failed fish ladder at Soquel Drive and retrofit a culvert at Valencia Road, both located on Valencia Creek, a major tributary to Aptos Creek in Santa Cruz County, to implement the Valencia Creek Fish Passage Improvement Program.

LOCATION: Valencia Creek, tributary to Aptos Creek in Santa Cruz County (Exhibit 1)

PROGRAM CATEGORY: Integrated Coastal and Marine Resources Protection

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EXHIBITS

RESOLUTION AND FINDINGS:

Staff recommends that the State Coastal Conservancy adopt the following Resolution pursuant to Section 31220 of the Public Resources Code:

"The State Coastal Conservancy hereby authorizes the disbursement of an amount not to exceed six hundred thousand dollars ($600,000) to the County of Santa Cruz to reconstruct a failed fish ladder and retrofit a culvert on Valencia Creek to implement the Valencia Creek Fish Passage Improvement Program subject to the following conditions:

1. Prior to the County's commencement of work, the Executive Officer of the Conservancy shall approve in writing a work program, schedule of completion, project budget, any contractors to be employed and a signing plan acknowledging the Conservancy;

2. The County shall submit evidence that all necessary permits have been obtained;

3. The County shall implement post-project effectiveness monitoring for three years following construction according to a monitoring plan approved by the Executive Officer of the Conservancy."

Staff further recommends that the Conservancy adopt the following findings:

"Based on the accompanying staff report and attached exhibits, the State Coastal Conservancy hereby finds that:

1. The proposed projects are consistent with the purposes and criteria set forth in Chapter 5.5 of Division 21, section 31220 of the Public Resources Code regarding integrated coastal and marine resources protection.

2. The proposed projects are consistent with the Project Selection Criteria and Guidelines adopted by the Conservancy on January 24, 2001.

3. The Conservancy has independently reviewed the mitigated Negative Declarations approved on June 2, 2005 and February 6, 2006 by the County of Santa Cruz and finds that there is no substantial evidence that the projects will have a significant effect on the environment, as defined in 14 California Code of Regulations Section 15382."

PROJECT SUMMARY:

Staff recommends authorization to disburse up to $600,000 to the County of Santa Cruz to reconstruct a failed fish ladder at Soquel Drive and to retrofit a culvert at Valencia Road, both located on Valencia Creek, a major tributary to Aptos Creek in Santa Cruz County. It is anticipated that the project will be implemented by the County's Department of Public Works ("DPW").

The Aptos Creek watershed is a high priority steelhead stream and historically the southernmost extent of Coho salmon. These two sites are the most significant barriers in the watershed, failing to meet passage criteria for all species of adult salmonids and all age classes of juveniles under all flow conditions (Ross Taylor and Associates 2003). The implementation of these two projects will restore migration passage at most flows to five miles of spawning and rearing habitat, essentially opening up the entire watershed.

These projects are two of the unprecedented 24 restoration projects being implemented this year in the county as a direct result of the Integrated Watershed Restoration Program ("IWRP") for Santa Cruz County and the Partners in Restoration Permit Coordination Program, both funded by the Conservancy (see Project History below). Both Valencia Creek projects were identified as high priority in the Aptos Creek Watershed Enhancement Plan (Coastal Watershed Council 2003) funded by the Coastal Conservancy and the Department of Fish and Game ("DFG"). They were also identified by DFG and the National Marine Fisheries Service ("NMFS") as high priority for funding for designs and permits through IWRP. DFG and NMFS have been closely involved in the design of both projects.

Valencia Creek Fish Ladder Reconstruction

The existing 12-foot by 12-foot concrete box culvert at the Soquel Drive stream crossing on Valencia Creek (see Exhibits 1 and 2) restricts passage criteria of all species of adult salmonids and all age classes of juveniles because of the 4 foot drop at the outlet and excessive velocities within the culvert. The culvert directs and constricts large flows to produce extreme turbulence and high velocities at the culvert outfall. These forces have combined to both deeply scour bed materials at the culvert outfall and severely damage the existing fish ladder structure.

Components of the project include removing the existing failed fish ladder, constructing a replacement concrete fish ladder at the culvert outlet and reconstructing the existing baffles inside the culvert to function more efficiently. Due to site limitations, construction access will be through a CalTrans culvert adjacent to Highway 1, approximately 200 feet downstream. The project will also reconstruct the ineffective baffle system in the CalTrans culvert, serving to improve passage through this partial barrier as well (the CalTrans culvert improvements will not be funded by the Conservancy).

Due to an inherent mismatch in the hydraulic requirements of the baffles upstream in the fish ladder culvert and the hydraulic requirements downstream in the ladder that makes it impossible to match good conditions in both for the entire range of fish passage flows, passage will still be difficult at extreme high and low flows. DFG and NMFS have concurred that this is an acceptable tradeoff for improving passage during the majority of the flows that are typical for migrating fish. Given the site conditions, the agencies have agreed that this is the best option to pursue.

Valencia Creek Culvert Retrofit

The existing culvert located at the Valencia Road stream crossing (see Exhibits 1 and 2) fails to allow passage of all species of adult salmonids and all age classes of juveniles because of an excessive drop at the outlet, inadequate depth in the outlet pool, and poor conditions at the inlet and outlet aprons.

The proposed project is to construct a culvert retrofit at this location. The enhancements include reorganizing downstream rock to reduce the drop at the outlet, installing three additional weirs to form pools for migrating fish, and replace the existing steel ramp baffles with concrete weirs.

The County plans to construct both projects between July 1, 2006 and October 15, 2006. All physical components of the projects using Conservancy funds will be maintained by DPW for no less than 20 years. DPW will prepare a post-project effectiveness monitoring plan to be approved by the Executive Director of the Conservancy, which will include an annual report for three years following construction to determine whether the projects are functioning as designed. At minimum, this monitoring report will include an inspection of the condition and functioning of the site improvements, as well as presence/absence monitoring of salmonids upstream of the sites to determine whether fish passage has increased as a result of the projects.

DPW has developed the expertise to efficiently execute the tasks necessary for successful completion of the Valencia Creek projects. One of the primary functions of DPW is to design municipal projects, administer the public bidding process, and to manage and inspect construction of those projects. DPW has taken literally hundreds of projects from concept through construction. DPW has also developed a high level of proficiency in grant administration, most recently executing Phases I & II of the San Lorenzo River Erosion Assessment and Prevention Project (2004), the County of Santa Cruz Stream Crossing Inventory and Fish Passage Evaluation (2004), and Erosion Control Training (2002), all funded by the Department of Fish and Game Fishery Restoration Grants Program. DPW was solely responsible for timely invoicing and project updates as well as hiring consultants, overseeing and auditing their performance while keeping the entire project on the prescribed timeline and within budget.

Site Description:

Aptos Creek watershed, including its major tributary Valencia Creek, is located in southern Santa Cruz County approximately 8.5 miles south of the city of Santa Cruz (Exhibit 1) and encompasses approximately 24.5 square miles. Approximately sixty percent of the watershed (mainstem Aptos Creek) includes the Forest of Nisene Marks State Park. From the headwaters in the Santa Cruz Mountains, Aptos Creek and its tributaries flow west through the town of Aptos and drain into the Monterey Bay National Marine Sanctuary. The remaining 40% of the watershed is primarily privately owned. The upper Valencia Creek watershed includes rural residential, timber and agriculture lands. The lower portions of the Valencia and Aptos Creek watersheds are predominantly suburban and urban residential and commercial. Urbanization throughout the lower watershed has resulted in a highly altered channel that includes bank protection, channelization, riprap and other bank protection, road crossings and buildings within the floodplain.

The primary wildlife habitats in the vicinity of the project area are big leaf maple and red alder riparian forest and second growth redwood forest. The understory is dominated by cape ivy, English ivy, and periwinkle, although some California blackberry and stinging nettle is present. There is the potential for California red-legged frogs, California yellow-legged frogs, and the Pacific pond turtle, all California Species of Special Concern, to occur in the project areas. A qualified biologist will conduct protocol level surveys prior to construction.

The Aptos Creek watershed is the southern extent of the known range of Coho salmon in North America and Aptos Creek is identified as one of nine watersheds targeted in the Draft Strategic Plan for Restoration of Endangered Coho Salmon South of San Francisco Bay (Department of

Fish and Game, 1998). DFG has considered the Aptos Creek watershed as an important steelhead spawning and nursery stream since the 1930s. Coho salmon (federally- and state-listed as Endangered) and steelhead trout (federally- and state-listed as Threatened) habitat are both present in Aptos Creek, although no Coho have been observed in recent years.

The Valencia Creek tributary is impacted by high levels of sedimentation but has over two miles of good spawning habitat above the most upstream barrier, the culvert retrofit site on Valencia Road, located approximately 3.5 miles from the mouth of Aptos Creek. The fish ladder site is located 2.75 miles downstream of the culvert retrofit site, just above the confluence of Valencia Creek with the mainstem of Aptos Creek (see Exhibit 1).

Project History:

Between 1998 and 2003, the Conservancy, DFG, and the Regional Water Quality Control Board funded over 14 fish passage and erosion risk assessments and watershed restoration plans for seven watersheds in Santa Cruz County. Staff from the Conservancy, DFG, Resource Conservation District, County and City of Santa Cruz, and the Coastal Watershed Council recognized that implementing the recommendations of these assessments and plans would be best accomplished by bringing together federal, state, and local resource and permitting agencies to identify the highest priority projects and assist with locating funding sources, providing technical assistance, and facilitating permitting. This led to the creation of the Integrated Watershed Restoration Program ("IWRP") for Santa Cruz County. The mission of IWRP is to facilitate and coordinate projects to improve fish and wildlife habitat and water quality in Santa Cruz County watersheds using a voluntary, non-regulatory approach. Typical IWRP restoration projects include sediment reduction, fish passage improvement, and wetland and lagoon restoration.

Phase 1 of IWRP was funded by the Conservancy as a grant to the Santa Cruz County Resource Conservation District in 2003. The primary focus of Phase 1 is to help project leads with the cost and complexity of designs and permits for approximately 75-85 high priority projects recommended in the watershed plans and/or promoted by resource agencies. A technical advisory committee composed of federal, state, and local resource and permitting agencies oversees and facilitates the selection, design, and permitting of high priority projects to ensure that they are designed in the most technically feasible and cost-effective way. Funded separately by the Conservancy but also a part of IWRP, the first county-wide Partners in Restoration permit coordination program is being completed which will help ease the permitting complexity for landowners trying to do certain types of restoration projects.

The proposed Valencia Creek Fish Passage Improvement Program projects were originally identified as high priority in the Aptos Creek Watershed Enhancement Plan (Coastal Watershed Council 2003) funded by the Conservancy and DFG. DFG and NMFS both recommended these projects be funded for designs and permits through Phase 1 of IWRP and these agencies were closely involved in the design process. Conservancy staff selected these projects for possible Conservancy implementation funding (part of Phase 2 of IWRP) based on 1) the benefits achieved by increasing fish passage throughout the entire watershed as a result of modifying these two significant barriers, 2) the thorough technical review of the designs by DFG and

NMFS, 3) the lack of other funding sources available to ensure the projects are implemented this year, and 4) confidence in the budget preparation and expertise of DPW to carry out the projects.

PROJECT FINANCING:

Coastal Conservancy*	$600,000
DPW	72,000
Total Project Cost	**$672,000**

*The anticipated source of Conservancy funds for the proposed projects is an appropriation from the Watershed, Clean Beaches, and Water Quality Act of 2002 (Proposition 40). These funds may be used for coastal watershed protection projects consistent with Section 31220 of the Public Resources Code (see next section).

CONSISTENCY WITH CONSERVANCY'S ENABLING LEGISLATION:

These projects would be undertaken pursuant to Chapter 5.5 (Section 31220) of the Conservancy's enabling legislation, Division 21 of the Public Resources Code, regarding Integrated Coastal and Marine Resources Protection.

Consistent with §31220(a), staff has consulted with State Water Resources Control Board 3 in the development of the projects to ensure consistency with Chapter 3 (commencing with §30915) [Clean Beaches Program] of Division 20.4 of the Public Resources Code [Watershed, Clean Beaches, and Water Quality Act].

Consistent with §31220(b)(2) and (3), the projects will restore fish habitat within coastal watersheds and reduce the threats to coastal anadromous fish by modifying two significant anthropogenic barriers to fish migration and restoring access to five miles of spawning and rearing habitat.

Consistent with §31220(c), the projects include a monitoring component for three years following construction to evaluate project effectiveness. Also consistent with §31220(c), the projects are recommended in or consistent with local watershed management plans, the Integrated Regional Watershed Management Program for Northern Santa Cruz County, and the Water Quality Control Plan for the Central Coastal Basin (see Consistency With Local Watershed Management Plan/State Water Quality Control Plan section below).

CONSISTENCY WITH CONSERVANCY'S STRATEGIC PLAN GOAL(S) & OBJECTIVE(S):

Consistent with **Goal 6, Objective A** of the Conservancy’s Strategic Plan, the two projects will improve habitat for anadromous fish by restoring migration passage to five miles of spawning and rearing habitat.

CONSISTENCY WITH CONSERVANCY'S PROJECT SELECTION CRITERIA & GUIDELINES:

The proposed project is consistent with the Conservancy's Project Selection Criteria and Guidelines adopted January 24, 2001, in the following respects:

Required Criteria

1. **Promotion of the Conservancy's statutory programs and purposes:** See the "Consistency with Conservancy's Enabling Legislation" section above.
2. **Consistency with purposes of the funding source:** See the "Project Financing" section above.
3. **Support of the public:** Supporters of these projects include State Senator Joseph Simitian, Assemblymember John Laird, County Supervisor Ellen Pirie, the Department of Fish and Game, the National Marine Fisheries Service, CalTrans, the Santa Cruz County Resource Conservation District, Coastal Watershed Council, and others. Letters of support are included in Exhibit 3.
4. **Location:** The projects are located on the Valencia Creek tributary of the Aptos Creek watershed in Santa Cruz County, which is partly in and partly out of the coastal zone. By modifying two significant passage barriers to restore access to five miles of spawning and rearing habitat, the projects will benefit coastal and marine anadromous fish.
5. **Need:** The proposed projects would improve access to five miles of habitat and ensure the timely implementation of an important steelhead and Coho salmon restoration opportunity. No other funding sources are available to allow the projects to be constructed this year.
6. **Greater-than-local interest:** Restoration of anadromous fisheries is widely recognized as a local, state and federal goal and the projects are supported by both DFG and NMFS. The Aptos Creek watershed is the southern extent of the known range of Coho salmon in North America and Aptos Creek is identified as one of nine watersheds targeted in the Draft Strategic Plan for Restoration of Endangered Coho Salmon South of San Francisco Bay (Department of Fish and Game, 1998). The proposed projects will restore access for Coho salmon and steelhead throughout the watershed.

Additional Criteria

7. **Urgency:** The two passage barriers block all anadromous fish access to five miles of habitat on Valencia Creek. It is critical that these barriers are modified in a timely manner in order to restore access to key habitat for two listed species, Coho salmon and steelhead.
8. **Resolution of more than one issue:** In addition to improving fish passage, these projects establish DPW as a viable partner for future IWRP restoration projects.
9. **Leverage:** See the "Project Financing" section above.
11. **Innovation:** IWRP is a unique approach to comprehensive, coordinated watershed restoration and can be used as a model throughout the state. The implementation of these projects demonstrate the effectiveness of this approach, particularly in the early involvement of DFG and NMFS in the design process.

12. **Readiness:** Projects designs are complete and most permits are already secured. DPW is ready to start construction this July. DPW has demonstrated that it has the expertise, local public support, and administrative capability necessary to commence and complete the projects this year.
13. **Realization of prior Conservancy goals:** See "Project History" above.
15. **Cooperation:** The fundamental principle behind IWRP is the cooperation of local, state, and federal partners. These projects developed out of the cooperation of the County Public Works and Environmental Health Departments, the Resource Conservation District, DFG, NMFS, Conservancy, and landowners along access routes, among many others.

CONSISTENCY WITH LOCAL COASTAL PROGRAM POLICIES:

By modifying two significant anthropogenic barriers to fishery migration and restoring passage to five miles of spawning and rearing habitat, the proposed projects will help to satisfy several of the priorities listed in the County's 1994 certified General Plan and Local Coastal Program (LCP) including:

- Objective 5.2 Riparian Corridors and Wetlands: To preserve, protect and restore all riparian corridor and wetlands for the protection of wildlife and aquatic habitat, water quality, erosion control, open space, aesthetic and recreational values and the conveyance and storage of flood waters (p. 5-9).
- Program (h): Identify and restore aquatic and marine habitats which have been damaged due to human activities (p.5-13).

CONSISTENCY WITH LOCAL WATERSHED MANAGEMENT PLAN/ STATE WATER QUALITY CONTROL PLAN:

The Valencia Creek Fish Passage Improvement Program projects are recommended as high priority projects in the following local watershed management plans:

- Aptos Creek Watershed Enhancement Plan (Coastal Watershed Council 2003)
- County of Santa Cruz Road Crossing and Salmonid Passage Assessment (County of Santa Cruz 2003)
- The Integrated Regional Watershed Management Plan for Northern Santa Cruz County (2005)

Because they will facilitate the restoration of fish and wildlife habitat in coastal watersheds and wetlands, including habitat for the state- and federally-listed anadromous Coho salmon and steelhead, the projects are also consistent with the Water Quality Control Plan for the Central Coastal Basin (adopted by the Regional Water Quality Control Board Central Coast Region in 1994 and reviewed every three years) in that they will further the following beneficial use objectives:

- Wildlife habitat
- Rare, Threatened, or Endangered Species
- Migration of Aquatic Organisms

- Spawning, Reproduction, and/or Early Development.

COMPLIANCE WITH CEQA:

DPW proposes to reconstruct two barriers to fish passage to allow migration of anadromous fish throughout the watershed. An Initial Study was prepared for each project. As the lead agency for purposes of CEQA, the County Planning Department approved the Initial Studies and Mitigated Negative Declarations for both projects, finding that as long as mitigation measures and conditions are complied with, neither project will have a significant effect on the environment. Each project and its environmental effects are described below.

Valencia Creek Culvert Retrofit

The project consists of retrofitting an existing baffle system in an existing culvert and installing rock weirs downstream of the culvert to improve fish passage on Valencia Creek in Aptos. This project is located where Valencia Road crosses Valencia Creek at post mile marker 3.2.

The County of Santa Cruz Planning Department approved the Environmental Review Initial Study and Mitigated Negative Declaration on June 2, 2005, and a Notice of Determination on June 9, 2005 (see Exhibits 4 and 5). The initial study identified potentially significant impacts that can be mitigated to a less-than-significant level in the area of biological resources, as described below.

Biological Resources: The initial study identified potential impacts to sensitive or listed wildlife species resulting from project construction activities. These include the potential to have an adverse effect on special status species, sensitive biotic communities, and interference with movement of native or migratory species and use of wildlife nursery sites. While the purpose of the project is to improve the migration of special status salmonids, any short-term potential impacts will be mitigated by implementing the following measures:

1) Work will be conducted during the low flow period between July 1 and October 15, and following an approved Erosion Control Plan. If work does not begin by September 15, it shall be postponed until the following July.
2) A qualified fisheries biologist will relocate all salmonids to a predetermined suitable site located above the project site as recommended in the biotic report and monitoring program: Preliminary Biological Constraints Analysis for the Valencia Road P.M. 3.2 Culvert Retrofit (Kittleson, 2005) (see Exhibit 6)
3) A qualified biologist will conduct pre-construction protocol surveys for California Red Legged Frog (CRLF), special status turtles and fish within 24 hours of the start of the project. If special status animals are found the project shall be temporarily halted and the US Fish and Wildlife Service shall be consulted for direction. Follow-up surveys for CLRF shall be conducted as recommended in the biotic report.
4) A qualified biologist shall survey the access road are immediately prior to disturbance by equipment. The biologist shall be onsite during all work in the creek during the installation and removal of the stream bypass.
5) Pre-construction surveys for breeding protected birds shall also be performed and avoidance practiced as given in the biotic report.

6) All recommendations of the biotic report, including training of crews, shall be implemented.
7) The maximum width of the temporary access path is fifty feet. Prior to site disturbance, the area will be marked by temporary fence. No trees greater than six inches will be removed and no earth will be pushed into the creek. The disturbed area will be replanted according to the approved riparian planting plan with erosion control in place prior to October 15. DPW will monitor the site for 3-5 years according to the riparian planting plan.

The County also identified less-than-significant impacts in the areas of visual resources, cultural resources, transportation and public services, and noise. The County addressed or incorporated mitigation measures to lessen these impacts, including 1) Visual Resources: the temporary access road to the creek will be visible from Valencia Road, however, the disturbed area will be planted with native riparian species and will be indistinguishable from pre-project conditions after a season's growth; 2) Cultural Resources: it is unlikely that any archaeological resources will be disturbed in the project area, but, pursuant to County Code Section 16.40.040, should any be discovered all work will cease and desist and comply with notification procedures given in County Code Section 16.40.040; 3) Transportation and Public Services: during construction, there may be cause to temporarily close one lane of traffic while machinery accesses the creek from the staging area next to the road. These closures will be temporary, no longer than 5 minutes at a time, and standard signage and traffic controls will be in place. Emergency vehicles will be allowed to pass without delay. 4) Noise: ambient noise levels will increase for adjoining areas during construction, but given the limited duration of this impact, it is considered less than significant.

Valencia Creek Fish Ladder Reconstruction

The project consists of the demolition and replacement of a failed ladder and two exiting culvert baffle systems to improve fish passage on Valencia Creek in Aptos. This project is located in the reach between the culvert under Soquel Drive and the culvert under the toe of Highway 1.

The County of Santa Cruz Planning Department approved the Environmental Review Initial Study and Mitigated Negative Declaration on February 6, 2006, and a Notice of Determination on February 23, 2006 (see Exhibits 7 and 8). The initial study identified potentially significant impacts that can be mitigated to a less-than-significant level in the area of biological resources, as described below.

Biological Resources: The initial study identified the same potential impacts to sensitive or listed wildlife species resulting from project construction activities as in the previous project. To mitigate these potential impacts, the same mitigation measures listed above will be implemented, including all recommended measures in the biotic report and monitoring program: Preliminary Biological Constraints Analysis for the Valencia Creek Fish Ladder (Kittleson, 2005) (see Exhibit 9). The County also required that prior to exercising the Riparian Exception, DPW shall complete the biological consultation with NMFS and obtain a stream alteration agreement issued by DFG. DPW will implement any additional mitigation measures required by these permitting agencies.

The County also identified less-than-significant impacts in the areas of visual resources, cultural resources, and noise. The County addressed or incorporated mitigation measures to lessen these impacts, including 1) Visual Resources: the temporary access road to the creek will not be visible from Soquel Drive, however, the disturbed area will be planted with native riparian species and will be indistinguishable from pre-project conditions after a season's growth; 2) Cultural Resources: it is unlikely that any archaeological resources will be disturbed in the project area, but, pursuant to County Code Section 16.40.040, should any be discovered all work will cease and desist and comply with notification procedures given in County Code Section 16.40.040; 3) Noise: ambient noise levels will increase for adjoining areas during construction, but given the limited duration of this impact, it is considered less than significant.

Staff has reviewed both of the County's Mitigated Negative Declarations, and the biotic reports and monitoring programs prepared by the County for the Valencia Creek Fish Passage Improvement Program projects and recommends that the Conservancy, as a responsible agency, find that the projects, as mitigated, do not have the potential to have a significant effect on the environment. Staff will file a Notice of Determination upon approval of the project.